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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,524	03/29/2001	Yong Yan	5121-6	6084

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EXAMINER

DETWILER, BRIAN J

ART UNIT	PAPER NUMBER
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2173

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/821,524	Applicant(s) YAN ET AL.	
	Examiner Brian J. Detwiler	Art Unit 2173	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____

are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some * c) ☐ None of:
 - 1. ☐ Certified copies of the priority documents have been received.
 - 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| <ul style="list-style-type: none"> 1) <input type="checkbox"/> Notice of References Cited (PTO-892) 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | <ul style="list-style-type: none"> 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6) <input type="checkbox"/> Other: _____ |
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DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9, 11-15, 17, and 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,460,056 (Horii) and U.S. Patent No. 6,665,643 (Lande et al).

Referring to claims 1, 2, 11, 17, and 22, Horii discloses in Figure 4 a system comprising speech input terminal [11], speech recognizer [13], speech dictionary [14], storage device [15], image dictionary storage [6], video output signal processor [24], image composer [23], and display [9]. In column 4: line 40 through column 5: line 23, Horii first explains that speech received at the input terminal [11] is recognized and stored at storage device [15]. A compressed image related to the recognized voice signal is then retrieved from the image dictionary storage [6] and transmitted to the image composer [23] through the video output signal processor [24]. In column 3: lines 11-17, Horii further explains that said image dictionary storage device comprises sign language images that may be obtained by adding motion to images produced by computer graphics (i.e. animation). Accordingly, a sign language animation model is inherently taught by Horii, because such would be required to relate the compressed sign language images to the recognized voice signals. In column 4: lines 14-21, Horii teaches that the recognized

Art Unit: 2173

speech is first stored as character data. The inherent linking structure between said character data and the sign language images thus corresponds to the claimed animation model parameters. The generated animation signal is then used to render an animation image on a portion of a display as illustrated in Figure 5. Regarding claims 2 and 11, Horii's invention must inherently isolate the speech component from an audio component so that spoken words can be recognized and correlated with the associated sign language images. Regarding claims 17 and 22, Horii's invention must inherently comprise transmitters and receivers for transmitting and receiving the audio/video signals. Horii fails to disclose, however, that animations are rendered without accessing an image database containing pre-stored images. Lande, though, discloses in column 2: lines 32-67 a method for rendering an animation wherein animation parameters are derived from an audio signal and are applied to an animated model. Lande's approach provides for a more realistic animation than that of Horii. In Lande's invention multiple deformations are applied in very small intervals to a single three-dimensional model, whereas Horii's invention employs a plurality of distinct images that are displayed sequentially with little concern for the transitions between adjacent images. While Lande's invention is applied to a model of a human face, the concepts taught by Lande could easily be applied to other three-dimensional models, e.g. a human hand. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize Lande's method of rendering an animation without accessing an image database containing pre-stored images in combination with Horii's sign language generation system. It would have been advantageous to do so because Lande's animations are more realistic.

Art Unit: 2173

Referring to claims 3-5, Horii discloses in column 5: lines 14-23 that the audio/video signal could come from a television program, which is generally produced and transmitted from a location that is remote from the monitor. Horii, though, fails to disclose that the mapping step is performed remotely from the monitor, that the mapping step is performed proximate the transmitter, or a step of transmitting the animation model parameters to the monitor. The actual display, however, is typically only used to display an associated video signal. The physical location of Horii's display is then by no means instrumental to the operation of the invention. The transmitting and mapping steps can be performed anywhere as long as the video signal can be routed back to the display for viewing. Furthermore, the examiner submits that it is notoriously well known in the state of the art that displays can be located remotely from where video signals and parameters are generated and transmitted. The examiner takes OFFICIAL NOTICE of this teaching. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to perform the mapping step remotely from the monitor/display and proximate the transmitter. Such an implementation would allow greater flexibility in deploying the invention in a variety of locations and environments. In this implementation, the animation model parameters would be transmitted to the monitor.

Referring to claims 6, 12, and 19, Horii discloses in column 3: lines 7-17 that the image dictionary storage device [6] comprises a plurality of images related to character codes. Horii further explains in this section that the images can be obtained by adding motion to (animating) computer graphics. Accordingly, said images correspond to the claimed multiple character icons.

Art Unit: 2173

Referring to claims 7 and 13, Horii discloses in column 2: lines 57-61 that a keyboard (monitor control device) can be used to activate the processor.

Referring to claims 8, 14, and 20, Horii fails to disclose displaying a character icon comprising a face with a mouth and animating the mouth to simulate speech corresponding to the speech component of the audio/video signal. Lande, though, discloses in column 2: lines 31-67 a mechanism for animating a synthesized model of a human face, wherein the animation is driven by an audio signal. Ultimately, the synthesized model comprises a face with a mouth that is animated to correspond with the speech component of the audio signal. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include an animated model of a face with a mouth as taught by Lande in the invention of Horii. In instances wherein the primary video component fails to include images of the person from whom the speech is coming from, the animated model advantageously provides hearing disabled viewers with the option to lip read instead of interpreting hand gestures.

Referring to claim 9, 15, 21, and 23, Horii discloses in column 3: lines 7-17 that the image dictionary storage device [6] comprises a plurality of sign language images corresponding to related character codes. Horii further explains in column 4: lines 1-39 that spoken words from the speech component of the audio/video signal are correlated to the sign language symbols.

Claims 10, 16, 18, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,460,056 (Horii) and U.S. Patent No. 6,665,643 (Lande et al) as applied to claims 1, 11, 17, and 22 above, and further in view of "Text-

Art Unit: 2173

driven automatic frame generation using MPEG-4 synthetic/natural hybrid coding for 2-D head-and-shoulder scene”.

Referring to claims 10, 16, 18, and 24, Horii and Lande fail to disclose generating animation model parameters via Synthetic Natural Hybrid Coding (SNHC). The “Text-driven...” reference, however, teaches that it is well known to use SNHC to generate animation parameters because it increases the intelligibility of non-verbal communication. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use SNHC as taught by the “Text drive...” reference to generate the animation model parameters in combination with the teachings of Horii and Lande. As suggested in the “Text drive...” reference, SNHC advantageously increases the intelligibility of non-verbal communication.

Response to Arguments

Applicant's arguments filed 12 August 2004 have been fully considered but they are not persuasive.

Applicant first asserts that the combined teachings of Horii and Lande fail to anticipate the claimed invention. In particular, Applicant asserts that because Lande's invention is directed to animating facial movements instead of hand gestures, the combined teachings of Horii and Lande fail to disclose translating a speech component into animated sign language gestures without accessing a database of prestored images. The examiner respectfully disagrees. As discussed above and acknowledged by Applicant, Horii sufficiently discloses a method for translating a speech component into animated sign language gestures by accessing a database of prestored images.

Art Unit: 2173

Accordingly, in order to anticipate the claimed invention, a teaching must be found in the prior art that suggests animating a model *without* accessing a database of prestored images. Lande provides precisely this teaching. Lande's invention translates an audio signal into parameters that are applied to a facial model as a series of deformations thus creating an animation without accessing a database. While a hand model instead of a facial model would have been ideal, such is not necessary since Horii already discloses using a hand model to produce animated sign language gestures. Furthermore, the examiner disagrees with Applicant's suggestion that a facial model is less complex than a hand model. While there may be more visibly distinct components in a hand model, Lande's method involves a significant number of factors in determining the shape and position of the mouth and jaw so as to accurately depict spoken words. The facial model is thus at least as complex, if not more so, than a hand model comprising a multitude of easily discernible parts. Finally, the examiner submits that all of the necessary teachings are present in Horii and Lande to anticipate the claimed invention.

Applicant next asserts that the examiner's taking of Official Notice in the previous Final action was improper because a prior art citation was not provided. A prior art citation, however, is not necessary for notoriously known features when Official Notice is taken unless Applicant properly traverses the taking of Official Notice. The point of Official Notice is avoid crowding the application with an excessive number of references merely to teach limitations that are extremely well known in the prior art.

Lastly, Applicant asserts that the cited IEEE article's teaching of SNHC fails to provide a teaching of how SNHC might be applied to a model of hands and arms instead of faces as the article describes. Again, the specific nature of the model is not

Art Unit: 2173

particularly important when forming a combination with Horii and Lande. The IEEE article teaches using SNHC to animate a head and shoulder model, which is at least as complex as a hand and arm. The combination is further strengthened by the fact that both Lande and the IEEE article discuss animating a head/facial model and all three references pertain to parts of the human body. The examiner thus submits that the combination is proper and the cited teachings anticipate the claimed invention.

Conclusion

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

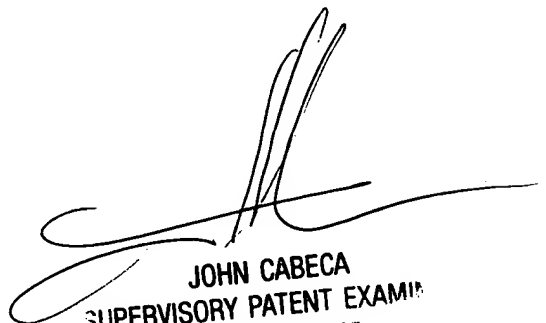
Art Unit: 2173

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Detwiler whose telephone number is 571-272-4049. The examiner can normally be reached on Mon-Thu 8-5:30 and alternating Fridays 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Cabeca can be reached on 571-272-4048. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

bjd



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